



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,122	04/28/2000	Too Yew Teng	1961-00100	3390

23505 7590 03/26/2003

CONLEY ROSE, P.C.  
P. O. BOX 3267  
HOUSTON, TX 77253-3267

EXAMINER

VUONG, BACH Q

ART UNIT	PAPER NUMBER
----------	--------------

2653

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/560,122

Applicant(s)

TENG ET AL.

Examiner

Bach Q Vuong

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatayama (JP 09033447 A).

Hatayama, according to Figs. 1-6, shows an apparatus for detecting cracks in optical discs comprising all features of the claimed invention.

Regarding claim 1, see Fig. 1 which show an apparatus for detecting cracks in optical discs comprising: a disc drive for spinning the optical disc (see Spindle motor 5, Spindle 1 in Fig. 1); at least one transmitter (see laser 2a in Fig. 1) for propagating a light signal through the interior of the optical disc; at least one receiver (see photodetector 2b in Fig. 1) for receiving for receiving the propagated light emerging from the disc; and a microcontroller (see Judgment part 7) coupled to the receiver for analyzing signals received thereof.

Regarding claim 2, see Figs. 1 and 4 which show an apparatus for detecting cracks in optical discs wherein the light signal (see light L in Fig. 1 or 4) is propagated across the plane of the disc and in a direction approximately tangential to the inner edge of the disc, the closest distance between the path of the propagated light and the inner edge being the length of shortest crack to be detected (see Fig. 4).

Regarding claim 3, see Fig. 5 which shows an apparatus for detecting cracks in optical discs wherein the receiver is adapted to receive unreflected propagated signals emerging from the disc.

Regarding claim 4, see Fig. 6 which shows an apparatus for detecting cracks in optical discs wherein the receiver is adapted to received propagated signals (see signal L1) reflected by at least one crack in the disc.

Regarding claim 5, see Fig. 1, 4 or 6 which show an apparatus for detecting cracks in optical discs wherein the light signal (signal L in Fig.1) is propagated along a path that traverse the plane of the optical disc, the path traversing the disc at a position proximate the inner edge (also see parts of Abstract & Solution of JP 09033447 A).

Regarding claim 6, see Fig. 5 which show an apparatus for detecting cracks in optical discs wherein the receiver is adapted to receive uninterrupted propagated signals emerging from the disc.

Regarding claim 7, see Figs. 1 and 6 which show an apparatus for detecting cracks in optical discs wherein the receiver is adapted to receive propagated signals (see signal L1) reflected by at least one crack in the disc.

Regarding claim 8, see Figs. 1, 4-6 which show an optical disk drive comprising a traverse mechanism (see Spindle 1a, 5 and 6 in Fig. 1) for spinning the disc and retrieving information from the disc, a loader mechanism (loader is inherently included in the crack detector device) for loading the disc onto the traverse mechanism, and a crack detection mechanism (see Fig. 1) which is comprising a transmitter (light source 2a), mounted on the disc drive, for propagating a light signal through the interior of the spinning optical disc; and having a light sensor (see 2b) positioned to receive unreflected propagated light emerging from the disc; and a micro (see crack judgment part 7) for detecting cracks in optical discs.

Claims 9-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatayama (JP 11023486 A).

Regarding claim 9, see Figs. 1, 2 and 5-8 which show an optical disk drive comprising a traverse mechanism (see Spindle 101 in Fig. 1) for spinning the disc and retrieving information from the disc, a loader mechanism (disk is loaded in a loader holder inherently included in the crack detector device) for loading the disc onto the traverse mechanism and microcontroller for controlling the operations of the drive, the crack detection mechanism (see Fig. 1) which comprises a transmitter (light source 102) for propagating a light signal through the interior of the spinning optical disc; a receiver (see 103) comprising a receiving mechanism mounted on the disc drive at positioned that adapted to receive reflected propagated light generated by a crack positioned along the path of the propagated light.

Regarding claim 10, see Figs. 1, 2 and 5-8 which show a method for detecting cracks in optical disc comprising: rotating (see spindle 101 in Fig. 1) the optical disc; propagating an optical signal through the rotating optical disc (see light source 102); receiving the propagated signal (see photodetector 103); and analyzing the pattern of the received signal to determine if a crack is present in the optical disc (see 104).

Regarding claim 11, see Figs. 1, 2 and 5-8 which show a method for detecting cracks in optical disc comprising: loading the optical disc into a disk drive (disc is inherently loaded into the disc holder which is not shown in Fig. 1); rotating the disc drive at a low speed (see spindle 101); propagating an optical signal through the optical disc (see 102); receiving the propagated signal (see 103); and analyzing the pattern of the received signal to determine if a

crack is present in the optical disc and sending the appropriate command to the disc drive (see 104)

Regarding claims 13 and 14, see Fig. 1 or 2 which shows a method for detecting cracks in optical disc wherein the optical signal is further propagated along a path that is approximately tangential to the inner edge of the disc as recited in claim 13, and the light signal is propagated along a path that traverses the plane of the optical disc, the path traversing the disc at position proximate the inner edge as recited in claim 14.

Regarding claim 15, see Figs. 1 and 2 which show a method for detecting cracks in optical disc wherein the crack (see 1b Fig. 2) radiates from the inner edge of the disc; the optical signal (signal LB) is further propagated along a path that is approximately tangential to the inner edge of the disc, the closest distance (see distance a in Fig. 2) between the path and the inner edge being the length of the shortest crack to be detected.

Regarding claim 16, see Fig. 2 which show a method for detecting cracks in optical disc wherein the light signal (see light signal LB) is propagated along a path that traverse plane of the optical disc, the path traversing the disc at a position proximate the inner edge.

### *Allowable Subject Matter*

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 is allowed over the prior art of record because all the references in the record, considered as closest references and viewed in combination or individually, fails to suggest or fairly teach a method for detecting cracks in optical discs including combination

steps of: sending information to user, requesting the user to select between a first and second option, the first option comprising maintaining the optical disc retrieving information from the optical disc, and the second option comprising stopping the rotation as recited in claim 12, lines 3-9.

### *Cited References*

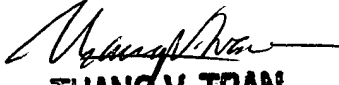
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to an apparatus and method for detecting crack on an optical discs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q Vuong whose telephone number is (703) 305-7355. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

BV  
March 18, 2003

  
**THANG V. TRAN**  
**PRIMARY EXAMINER**